



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,402	10/03/2003	Keith Alan Miesel	009.6001 (P-11290.00)	1006
27581	7590	03/07/2011	EXAMINER	
MEDTRONIC, INC. 710 MEDTRONIC PARKWAY NE MINNEAPOLIS, MN 55432-9924			ALTER, ALYSSA MARGO	
			ART UNIT	PAPER NUMBER
			3762	
			NOTIFICATION DATE	DELIVERY MODE
			03/07/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

rs.docketingus@medtronic.com  
sso@cardinal-ip.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/678,402	MIESEL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Alyssa M. Alter	3762	

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 22 June 2009.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,4,5,7-10 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,4,5,7-10 and 25 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 03 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All    b) Some \* c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Arguments***

Applicant's arguments filed June 22, 2009 with respects to Miesel et al. have been fully considered but they are not persuasive. The Applicant argues that "Miesel does not selectively route electrical signals to selected ones of the plurality of tissue interactive elements associated with the plurality of leads". However, the examiner considers Miesel et al. to disclose generating and selectively route electrical signals. Since the satellite control module interacts with a plurality of leads and thus selectively dispenses or generates electrical signals to each specific lead in the system to supply the sensors. Furthermore, different sensors would necessarily require different or selective electrical signals.

Applicant's arguments see pages 3-4, filed June 22, 2009, with respect to the rejections of claims 1 and 25 under 102(e) and/or 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of Stypulkowski. The new grounds of rejection considers the wave shaping circuits 306-308 to be the signal generator. Through this new interpretation, as detailed below, Stypulkowski now meets the recited claim limitations.

Applicant's arguments see pages 5-7, filed June 22, 2009, with respect to the rejections under Gord et al. have been fully considered and are persuasive. The rejections of claims 1, 4-5, 8-10 and 25 under Gord et al. have been withdrawn.

Therefore the pending claims, including 25, remain rejected as detailed below.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 25 is rejected under 35 U.S.C. 102(b) as being anticipated by Miesel et al. (US 6,248,080 B1). Miesel et al. discloses an implantable medical system depicted, for example, in figures 1b and 1c. The system includes a central control module 100, a conductor 12, and a satellite control module 20 which is associated with at least one lead. Miesel et al. further discloses in col. 8, lines 54-62, "a plurality of IMD 100's and leads 12 may also be employed in the integrated implantable system of the present invention to permit or facilitate the acquisition of signals or data from different areas, portions or regions of the brain. In one embodiment of the present invention, lead 12 comprises a plurality of sensors such as one pressure sensor or one pressure/temperature sensor. In another embodiment of the present invention, lead 12 comprises a plurality or string of like sensors disposed along the length of lead 12".

Furthermore, the satellite control module interacts with a plurality of leads and thus selectively dispenses or generates electrical signals to each specific lead in the system to supply the sensors. Different sensors would necessarily require different or selective electrical signals. Therefore, the examiner considers Miesel et al. to disclose generating and selectively route electrical signals.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 8-10 and 25 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Stypulkowski (US 7,286,878 B2). Stypulkowski discloses an electrode array extension with an IPG 220 connected to an extension unit (EU) 226 as seen in figure 2. The examiner considers the IPG 220 to be the central control module and the EU 226 to be the satellite module. Stypulkowski discloses that the switches can be controlled by a "source external to the body" (col. 4, lines 51) which means there is necessarily wireless communication with an external programmer. Additionally, Stypulkowski discloses that "the structure and the operation of IPGs is known to those skilled in the art"(col. 3, lines 15-16). Therefore, the IPG employed in the system would necessarily have a power source and a wireless receiver to communicate with an external programmer. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the IPG as taught by Stypulkowski with a power source and a wireless receiver since it was known in the art that to incorporate a power source and a wireless receiver into IPGs in order to provide the predictable results of facilitating communication with external programmers.

As seen in figure 3 the EU or satellite module, contains switches 310-312 which the examiner considers to be the switching module, a communication circuit 322 which the examiner considers the communication module, the controller 320 which the examiner considers the processor, a plurality of second leads 314-319 and wave shaping circuits 306-308.

As to the signal generator located in the satellite module, the examiner considers the shaping circuits 306-308 to be a signal generator since they generate the signals and are electrically connected to the switches 310-312 which will selectively route the signals. Additionally, the "controller 320 may include hardware or software to recognize programming signals and for programming wave shaping circuits 306-308 and/or switches 310-312" (col. 5, lines 4-7). Therefore, the processor or controller controls the signal generator or wave shaping circuits 306-308 to influence the signals generated. Also, since the controller 320 contains hardware/software it contains memory to store the software.

As to addition components, Stypulkowski is silent about the satellite module containing a sense amp and A/D converter. However, the system includes biomedical sensors which would necessarily include a sense amp and A/D converter. In addition, since the "wave shaping circuits 306-308 may be implemented with a variety of electrical components including potentiometers and integrated circuits" (col. 4, lines 34-36), the system would necessarily contain a sense amp and a A/D converter.

In the alternative, although the examiner considers Stypulkowski to disclose a sense amp and a A/D converter above, it would have been obvious to one having

ordinary skill in the art at the time the invention was made to employ a sense amp and an A/D converter since such a modification would provide the predictable result of amplifying a signal and converting the signal between analog and digital format in order to store enhance the analysis and storage of the signals. Furthermore, it is well known in the art to employ sense amps and A/D converts when recording and/or transmitting signals to the body.

3. Claims 4-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stypulkowski (US 7,286,878 B2). Stypulkowski discloses the claimed invention except for the wireless transmission of power. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the power source as taught by Stypulkowski since such a modification would provide the predictable results of enabling the removal of the battery and thus reduce the components, size and weight of the satellite module. Furthermore, removing the battery would reduce the cost and eliminate the need to explant the when the battery is drained.

As to claim 7, Stypulkowski discloses the claimed invention except for the logic block and buffer system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the switching module and memory to include a logic block and buffer, in order to provide the predictable results of enhanced signal transmission.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alyssa M. Alter whose telephone number is (571)272-4939. The examiner can normally be reached on M-F 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George R Evanisko/  
Primary Examiner, Art Unit 3762

/Alyssa M Alter/  
Examiner  
Art Unit 3762